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A.D. 1850 . . . . . N° 13,200.

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S P E C I F I C A T I O N

OF

RICHARD ARCHIBALD BROOMAN.

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ABDOMINAL SUPPORTERS.

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A.D. 1850 . . . . . N° 13,200.

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**Abdominal Supporters.**

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**BROOMAN'S SPECIFICATION.**

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, RICHARD ARCHIBALD BROOMAN, of the Firm of Messrs. J. C. Robertson and Company, of 166, Fleet Street, in the City of London, Patent Agents, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her  
5 Royal Letters Patent under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the Thirty-first day of July, One thousand eight hundred and fifty, in the fourteenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Richard Archibald Brooman, my exors, admors, and assigns, Her especial  
10 licence, full power, sole privilege and authority, that I, the said Richard Archibald Brooman, my exors, admors, and assigns, or such others as I, the said Richard Archibald Brooman, my exors, admors, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make,  
15 use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, in the Islands of Guernsey, Jersey, Alderney, Sark, and Man, and in all Her Majesty's Colonies and Plantations abroad, the Invention of  
"AN IMPROVEMENT OR IMPROVEMENTS IN ABDOMINAL SUPPORTERS," communi-  
cated to me from abroad; in which said Letters Patent is contained a proviso  
20 that I, the said Richard Archibald Brooman, shall cause a particular description of the nature of the said Invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, to be inrolled in Her Majesty's High Court of Chancery within six



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calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

**NOW KNOW YE**, that in compliance with the said proviso, I, the said Richard Archibald Brooman, hereby declare the nature of the Invention 5 communicated to me as aforesaid, and in what manner the same is to be performed, are fully described and ascertained in and by the present Specification thereof, reference being had to the Drawings annexed, that is to say:—

Figure 1 is a perspective view of an abdominal supporter, constructed 10 according to the said Invention. Figure II. is a view, showing the application of the pads to the back of the subject. Figure III. is a view exhibiting the application of the front pad to the abdomen. Figures IV. and V. are explanatory Diagrams. Figure V. is a view of a modification of the front pad by which the instrument is also made to act as a truss for the reduction and cure 15 of hernia or rupture. The chief defect of all instruments of this class hitherto in use has been that pressure has been made on the centre of the abdomen or linea alba; this is that membranous support drawn nearly tight which extends from near the end of the sternum or breast bone downwards to the os-pubis. Pressure upon this membrane has been found in practice to drag it 20 downward, and thus to diminish the capacity of the chest, while a lifting and lateral pressure on the lower part of each side of the abdomen will materially aid in enlarging the chest. It has also been extremely desirable to avoid any pressure on the spine, as this induces diseases of that column, or on the curvature of the ribs, as thus they would be forced inwards on the large organs of 25 the trunk, and produce effects which may be daily witnessed from the use of improper instruments, or on the os-sacrum, or the suture between that and the os-illium, which would induce diseases of those parts.

The improved construction is as follows:—The front pad (*a*) is about six or seven inches in length, and about four in depth. Its upper edge is nearly 30 straight, its lateral edges are inclined inwards and downwards, following the course of the groin, thence turning towards the centre, they cover the abdominal rings, and thence rise in an arched form, so that at the centre of the lower side the pad passes over the os-pubis, which it covers like a yoke. It is made of a strong plate of suitable metal properly padded and covered. To 35 each end of this pad there is attached an arm (*b*, *b*<sup>1</sup>), which rises upward and outward upon the body passing over the os-illium, and around the lower part of the waist to the back, thence descending (as shown in Figure II.) downward and inward to a distance, making the length of the arm to that point, if



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straightened out, say nine or ten inches, and thence turning horizontally toward the spine. The arms are made of steel plate cut in an irregularly curved form, that is to say, the arm ( $b^1$ ) is first straight, say three inches, thence curved to the right, and then turning to the left, as clearly shewn in the Diagram Figure V. The object of this formation differing from the straight spring (Figure IV.) is that the arm thus formed will lie flat to the body at all points, and hence its edges will not in any place cut or abrade the skin. Each arm is made of sufficient stiffness, and so tempered that when taken off the body its ends will meet. The arms are secured to the front pad by a screw near the lower part of each end, as shown. They have a slight vibratory motion on the screw for the purpose of permitting adjustment to the body, and of promoting ease to the wearer. At the back the bearing of the instrument is on four pads ( $c, c, c^1, c^1$ ). The pads ( $c, c$ ) press upon the flat part of the short ribs, one on each side of the spine, as shewn (Figure II.), and the pads ( $c^1, c^1$ ) press upon the flat plate of the os-illum, avoiding carefully any pressure upon the os-sacrum, or upon the suture between those ossa. The pads ( $c$  and  $c^1$ ) are connected together by an “S” shaped plate of tempered steel ( $d$ ), which extends outward from the pad ( $c$ ) and downward about one inch, thence perpendicularly downward about two and a half inches, and thence outward and downward about one inch (as shewn in Figure II.) The S plate has a mortice through the centre by means of which it may have a sliding motion upon the arm, and to that it is secured at any desired point by a bolt passing through both. The S plate has no vibratory motion on this bolt, and hence its central part will be always at a right angle to the end of the arm.

The shape thus adopted for the plate or spring connecting the pads ( $c$  and  $c^1$ ) with the arm gives them a different and more favorable bearing than can be obtained from a spring of any other shape. The pads preserve their position while the spring readily yields to the peculiarities of motion in those parts of the body of the wearer. The pads are secured to the ends of the S plates at their centres only, and so as to allow of easy play. The bolt which fastens them is fixed firmly in the pad, and, passing through the ends of the S plate, terminates in buttons or studs, and from these a strap is secured ( $e$ ) connecting the pads ( $c, c$ ) and a strap ( $e^1$ ) connecting the pads ( $c^1, c^1$ ). The operation will be thus:—When the supporter is placed upon the body in the position already described, each arm passing over the os-illum forms two levers, having their points of rest in common at the crest of the os-illum. The longer lever will raise the front pad, and with it all the abdomen towards the top of the hips, thus preventing the bowels from falling upon the rectum, uterus, bladder, and the large blood vessels that pass through the pelvis, and outwardly



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over the front of the thigh. By this arrangement no flat pressure is given, but a lifting pressure is gained, not much upon the front of the bowels, but upon the lateral columns of the abdominal contents, and thus extending support from the bottom of the sides of the abdomen to both lateral columns of the trunk, supporting the bowels, liver, stomach, breast, lungs, &c., by lifting all up 5 pressing upon the short ribs, and assisting gently to enlarge the chest. A modification of the front pad may be made, which gives to the instrument the additional advantages of a truss for the relief and permanent cure of hernia. This is effected by dividing the pad down the middle, as shewn in Figure VI., and uniting the parts by a hinge joint *i*. The lower part of each portion is 10 then extended still further downward, and on the side next the body of the extending part a pad of wood or other suitable substance is placed, which shall produce pressure upon the rupture in the usual manner. When the supporter is fixed in the proper place a strap is to be placed on the studs (*k, k,*) connecting the upper parts of the pad, and another on the studs (*l, l,*) thus 15 connecting the lower parts together, and retaining the instrument in the proper position.

Having now explained the nature of the Invention which has been communicated to me as aforesaid, and described what the Inventor considers to be the best form of construction, I declare that what I consider to be new, and 20 therefore claim as the Invention secured to me under the Letters Patent herein-before referred to, is as follows:—

Firstly, I claim the two short elastic arms, **S** shaped, connected with other parts of a supporter, having a pad upon each end, one pad to rest upon the short ribs behind the curve, and free from the spine, while the other rests upon 25 the flat plate of the os-illum, each **S** plate being united at the middle to a long elastic arm by a mortise, allowing no motion but that of sliding in or out the long arm, and the short arm always crossing at right angles.

Secondly, I claim the employment of two long elastic arms in connection with other parts of a supporter, and with the **S**-shaped arms by a mortise and 30 screw bolts, these arms being so cut that when laid upon a flat surface the edge shall be first convex, then concave, and then straight, and formed so as to sit flat upon the person, rising above the hips with a point of rest about one third of its length from the back, and falling down in front to a pad, and by so adjusting the shape of the arms and point of rest as to press directly upon 35 the hernial rings, and lift up the abdominal contents towards the top of the hips.

Thirdly, I claim the supporter pad so formed as to be thicker on the inside near its lower end and outer edge at the point of termination or lower fasten-

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ing to it of the long elastic arms, so as to press directly on the hernial rings, the lower outer edges being cut so as to follow the course of the groin, and the lower edge yoked or cut convex to go above the os-pudis, thus acting upon all those parts occupied by the abdominal rings.

5 Fourthly, I claim the dividing of the front pad perpendicularly through the centre, and connecting the parts by a hinge joint and by straps, rendering the parts adjustable to any desired position.

In witness whereof, I, the said Richard Archibald Brooman, have here-  
unto set my hand and seal, this Twenty-eighth day of January, in  
10 the year of our Lord One thousand eight hundred and fifty-one.

R. A. (L.S.) BROOMAN.

AND BE IT REMEMBERED, that on the Twenty-eighth day of January, in the year of our Lord 1851, the aforesaid Richard Archibald Brooman came before our said Lady the Queen in Her Chancery, and acknowledged  
15 the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

MOWBRAY.

Enrolled the Thirty-first day of January, in the year of our Lord One thousand eight hundred and fifty-one.

LONDON:

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FIG. IV.



FIG. V.

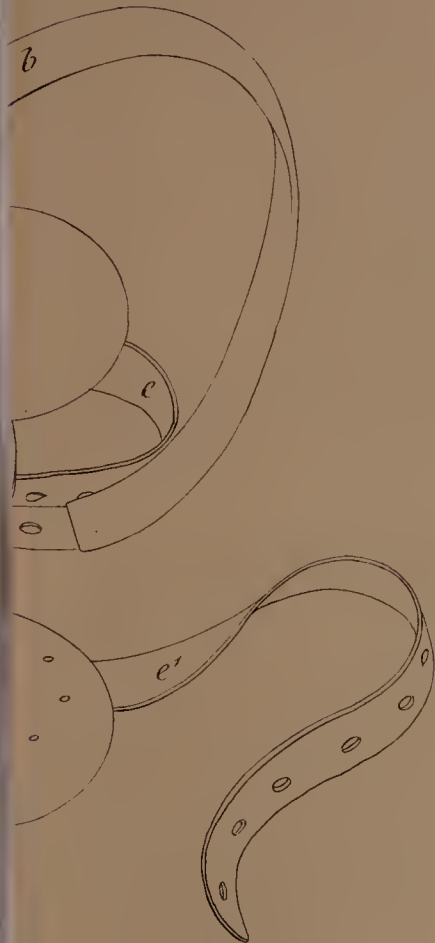
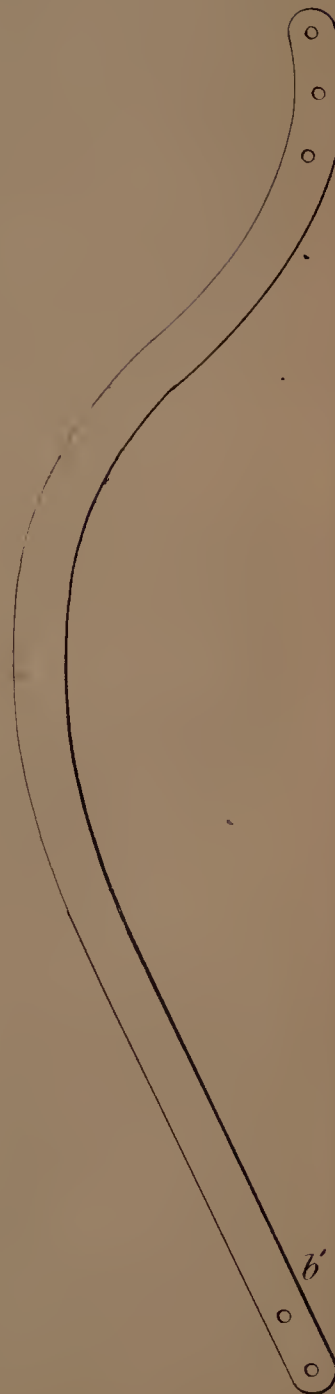


FIG. II.



FIG. III.



The enrolled drawing is not colored

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